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WHAT IS CLAIMED IS:

1        1. A mounting interface for providing a steadfast relationship between a  
2 motor and a baseplate, the mounting interface comprising at least three surface points  
3 forming a single plane acting as a common boundary between the motor and the  
4 baseplate.

1        2. The mounting interface of claim 1 wherein the at least three surface  
2 points further comprise pads.

1        3. The mounting interface of claim 1 wherein the at least three surface  
2 points are coupled to the baseplate.

1        4. The mounting interface of claim 1 wherein the motor includes a mount  
2 flange, wherein the at least three surface points are coupled to the mount flange.

1        5. The mounting interface of claim 1 wherein the motor includes a mount  
2 flange and wherein the at least three surface points provide reduced contact area  
3 between the mount flange and the baseplate, the reduced contact area lowering the  
4 rigidity of the mount flange and the resonant frequencies.

1        6. The mounting interface of claim 1 wherein the at least three surface  
2 points have a surface area, the surface area being chosen to reduce acoustical noise.

1        7. The mounting interface of claim 1 wherein the at least three surface  
2 points are formed using a predetermined material, the predetermined material being  
3 chosen to reduce acoustical noise.

1           8. The mounting interface of claim 1 wherein the at least three surface  
2 points are positioned at predetermined radial angles therebetween, the predetermined  
3 angles being chosen to reduce acoustical noise.

1           9. The mounting interface of claim 1 further comprising a damping ring  
2 disposed on an inner side and between the at least three surface points for dissipating  
3 distortion energy.

1           10. The mounting interface of claim 9 wherein the motor includes a mount  
2 flange and wherein the damping ring is coupled to the mount flange.

1           11. The mounting interface of claim 10 wherein the damping ring further  
2 comprises a vertical portion disposed on an outer surface of the at least three surface  
3 points of the mounting interface, the vertical portion engaging with the baseplate to  
4 dissipate energy resulting from sheer distortion between the baseplate and the at least  
5 three surface points.

1           12. The mounting interface of claim 11 wherein the damping ring further  
2 comprises a seal disposed on the vertical portion on an outer surface of the at least three  
3 surface points of the mounting interface, the seal forming a barrier in a gap between the  
4 mount flange and the baseplate.

1           13. The mounting interface of claim 9 wherein the damping ring is coupled  
2 to the baseplate.

1        14. The mounting interface of claim 13 wherein the damping ring further  
2        comprises a vertical portion disposed on an outer surface of the at least three surface  
3        points of the mounting interface, the vertical portion engaging with the baseplate and  
4        the at least three surface points to dissipate energy resulting from sheer distortion  
5        between the baseplate and the at least three surface points.

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1        15. The mounting interface of claim 14 wherein the damping ring further  
2        comprises a seal disposed on the vertical portion on an outer surface of the at least three  
3        surface points of the mounting interface, the seal forming a barrier in a gap between the  
4        motor and the baseplate.

1        16. A data storage system, comprising:  
2              a storage medium;  
3              an actuator including a transducer disposed at a distal end of an actuator arm  
4              an actuator motor, coupled to the actuator, for moving the transducer relative to  
5        the storage medium;  
6              a baseplate;  
7              a spindle motor for rotating the storage medium;  
8              a mount flange, coupled to the spindle motor, for coupling the spindle motor to  
9        the baseplate; and  
10          a mounting interface disposed between the mount flange and the baseplate, the  
11        mounting interface comprising at least three surface points forming a single plane acting  
12        as a common boundary between the mount flange and the baseplate.

1        17. The data storage system of claim 16 wherein the at least three surface  
2        points further comprise pads.

1           18. The data storage system of claim 16 wherein the at least three surface  
2 points are coupled to the baseplate.

1           19. The data storage system of claim 16 wherein the at least three surface  
2 points are coupled to the mount flange.

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1           20. The data storage system of claim 16 wherein the at least three surface  
2 points provide reduced contact area between the mount flange and the baseplate, the  
3 reduced contact area lowering the rigidity of the mount flange and the resonant  
4 frequencies.

1           21. The data storage system of claim 16 wherein the at least three surface  
2 points have a surface area, the surface area being chosen to reduce acoustical noise.

1           22. The data storage system of claim 16 wherein the at least three surface  
2 points are formed using a predetermined material, the predetermined material being  
3 chosen to reduce acoustical noise.

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1           23. The data storage system of claim 16 wherein the at least three surface  
2 points are positioned at predetermined radial angles therebetween, the predetermined  
3 angles being chosen to reduce acoustical noise.

1           24. The data storage system of claim 16 further comprising a damping ring  
2 disposed on an inner side and between the at least three surface points for dissipating  
3 distortion energy.

1           25. The data storage system of claim 24 wherein the damping ring is coupled  
2 to the mount flange.

1           26. The data storage system of claim 25 wherein the damping ring further  
2 comprises a vertical portion disposed on an outer surface of the at least three surface  
3 points of the mounting interface, the vertical portion engaging with the baseplate to  
4 dissipate energy resulting from sheer distortion between the baseplate and the at least  
5 three surface points.

*Selby AS*

1           27. The data storage system of claim 26 wherein the damping ring further  
2 comprises a seal disposed on the vertical portion on an outer surface of the at least three  
3 surface points of the mounting interface, the seal forming a barrier in a gap between the  
4 mount flange and the baseplate.

1           28. The data storage system of claim 24 wherein the damping ring is coupled  
2 to the baseplate.

1           29. The data storage system of claim 28 wherein the damping ring further  
2 comprises a vertical portion disposed on an outer surface of the at least three surface  
3 points of the mounting interface, the vertical portion engaging with the baseplate and  
4 the at least three surface points to dissipate energy resulting from sheer distortion  
5 between the baseplate and the at least three surface points.

*Selby AS*

1           30.   The data storage system of claim 29 wherein the damping ring further  
2   comprises a seal disposed on the vertical portion on an outer surface of the at least three  
3   surface points of the mounting interface, the seal forming a barrier in a gap between the  
4   motor and the baseplate.

1           31.   A method for reducing acoustic dynamics of a spindle motor, comprising  
2   forming a mounting interface between a spindle motor and a baseplate, the mounting  
3   interface comprising at least three surface points forming a single plane acting as a  
4   common boundary between the spindle motor and the baseplate.

1           32.   The method of claim 31 wherein the forming a mounting interface  
2   between a spindle motor and a baseplate further comprises forming the mounting  
3   interface on the baseplate.

1           33.   The method of claim 31 wherein the forming a mounting interface  
2   between a spindle motor and a baseplate further comprises forming the mounting  
3   interface on a mount flange and coupling the mount flange to the spindle motor.

1           34.   The method of claim 31 wherein the forming a mounting interface  
2   further comprises forming at least three surface pads.

1           35.   The method of claim 31 wherein the forming a mounting interface  
2   further comprises reducing the contact area between the mount flange and the baseplate,  
3   the reduced contact area lowering the resonant frequencies.

1           36.     The method of claim 31 wherein the forming a mounting interface  
2     further comprises forming at least three surface points having a surface area, the surface  
3     area being chosen to reduce acoustical noise.

1           37.     The method of claim 31 wherein the forming a mounting interface  
2     further comprises forming at least three surface points using a predetermined material,  
3     the predetermined material being chosen to reduce acoustical noise.

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1           38.     The method of claim 31 wherein the forming a mounting interface  
2     further comprises forming at least three surface points with a predetermined radial angle  
3     between each of the at least three surface points, the predetermined angles being chosen  
4     to reduce acoustical noise.

1           39.     The method of claim 31 further comprising forming a damping ring on  
2     an inner side and between the at least three surface points for dissipating distortion  
3     energy.

1           40.     The method of claim 39 wherein the forming a mounting interface  
2     between a spindle motor and a baseplate further comprises forming the mounting  
3     interface on a mount flange and wherein the damping ring is coupled to the mount  
4     flange.

1           41.     The method of claim 40 wherein the forming of the damping ring further  
2     comprises forming a vertical portion on an outer surface of the at least three surface  
3     points of the mounting interface, the vertical portion engaging with the baseplate to  
4     dissipate energy resulting from sheer distortion between the baseplate and the at least  
5     three surface points.

1           42.     The mounting interface of claim 41 wherein the forming of the damping  
2     ring further comprises forming a seal on the vertical portion at an outer surface of the at  
3     least three surface points of the mounting interface, the seal forming a barrier in a gap  
4     between the mount flange and the baseplate.

1           43.     The mounting interface of claim 39 wherein the damping ring is coupled  
2     to the baseplate.

1           44.     The mounting interface of claim 43 wherein the forming of the damping  
2     ring further comprises forming a vertical portion on an outer surface of the at least three  
3     surface points of the mounting interface, the vertical portion engaging with the baseplate  
4     and the at least three surface points to dissipate energy resulting from sheer distortion  
5     between the baseplate and the at least three surface points.

1           45.     The mounting interface of claim 44 wherein the forming of the damping  
2     ring further comprises forming a seal on the vertical portion at an outer surface of the at  
3     least three surface points of the mounting interface, the seal forming a barrier in a gap  
4     between the motor and the baseplate.

1        46. A mounting interface for providing a steadfast relationship between a  
2 motor and a baseplate, the mounting interface comprising a damping ring disposed on  
3 an inner side and between at least three surface points, the damping ring dissipating  
4 distortion energy.

1        47. The mounting interface of claim 46 wherein the damping ring further  
2 comprises a vertical portion disposed on an outer surface of the at least three surface  
3 points of the mounting interface, the vertical portion engaging with the baseplate to  
4 dissipate energy resulting from sheer distortion between the baseplate and the at least  
5 three surface points.

*SJH/JD*

1        48. The mounting interface of claim 47 wherein the damping ring further  
2 comprises a seal disposed on the vertical portion on an outer surface of the at least three  
3 surface points of the mounting interface, the seal forming a barrier in a gap between the  
4 mount flange and the baseplate.

1        49. The mounting interface of claim 46 wherein the damping ring is coupled  
2 to the baseplate.

1        50. The mounting interface of claim 49 wherein the damping ring further  
2 comprises a vertical portion disposed on an outer surface of the at least three surface  
3 points of the mounting interface, the vertical portion engaging with the baseplate and  
4 the at least three surface points to dissipate energy resulting from sheer distortion  
5 between the baseplate and the at least three surface points.

*SJH/JD*

1           51. The mounting interface of claim 50 wherein the damping ring further  
2 comprises a seal disposed on the vertical portion on an outer surface of the at least three  
3 surface points of the mounting interface, the seal forming a barrier in a gap between the  
4 motor and the baseplate.